

REMARKS

In the Office Action mailed July 29, 2004 the Examiner noted that claims 1-32 were pending, objected to claims 11 and 14 and rejected claims 1-10, 12, 13 & 15-32. Claims 11 and 14 have been amended, and, thus, in view of the forgoing claims 1-32 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections and objections are traversed below.

In the Office Action the Examiner objected to claims 11 and 14 and indicated that these claims would be allowable if rewritten in independent form. These claims have been so rewritten and it is submitted that these claims have not been narrowed and have the same scope as prior to being made independent and are now allowable. Withdrawal of the objection is requested.

On page 2 of the Office Action, the Examiner rejected claim 1-10, 12, 13, and 15-32 under 35 U.S.C. § 102 as anticipated by Hongo.

The present invention of independent claims 1, 2, 29 and 30 is directed to determining whether a target pixel is a background pixel "using a standard deviation of gray level of pixels in a vicinity area of the target pixel".

In contrast, Hongo is directed to a binarization process using a target window and 8 surrounding sub-windows each enclosing 3 x 3 pixels and a determination is made as to whether the target window is a character line pixel (see col. 8, lines 10-15). The determination is made, as stated by Hongo: "The background flatness and the target density difference for a pair of opposite surrounding sub-windows with respect to the target sub-window are found and a decision is made as to whether the target sub-window belongs to character line area" (see col. 3, lines 55-59). Neither the background flatness nor the target density difference is a value that could be called a standard deviation or a value derived from a standard deviation. Using a standard deviation provides a different and superior background determination result, not found in Hongo.

It is submitted that the invention of claims 1, 2, 29 and 30 distinguishes over Hongo and withdrawal of the rejection is requested.

independent claims 4, 23, 26, 31 and 32 of the invention are directed to determining, for each target pixel, whether the target pixel is a background pixel and to locally binarizing the target pixel by determining whether the target pixel belongs to the background or a stroke the and outputting a binary image if the target pixel is not a background pixel. That is, a determination is made whether the pixel is a background pixel or a stroke pixel when performing

a local binarization process and then the local-binarization is performed depending on whether the target pixel is determined to be in the background. By determining whether a target pixel is a background pixel prior to the local binarization process, the occurrence of a black and white flickering type noise can be suppressed at a low calculation cost (see application page 6, lines 20-23).

Hongo describes performing a binarization process based on the result of a determination as to whether each sub-window is a character line pixel (see col. 8, lines 10-15). Hongo does not teach or suggest performing the determination prior to the binarization process.

It is submitted that the invention of claims 4, 23, 26, 31 and 32 distinguishes over Hongo and withdrawal of the rejection is requested.

The dependent claims depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above. The dependent claims also recite additional features not taught or suggested by the prior art. For example, claim 3 calls for the gray level difference to be determined between average white gray level and average black gray level. As another example, claim 15 emphasizes that a fixed shape line element mask is used for line restriction. It is submitted that the dependent claims are independently patentable over the prior art.

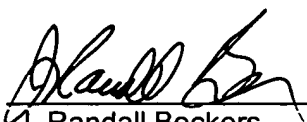
It is submitted that claims 11 and 14 continue to be allowable. It is further submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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